

REMARKS

Claims 1-17 are pending. Claim 1 has been amended to correct a minor typographical error. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-12, 14, 16, and 17 were rejected under 35 U.S.C. § 103(a) over Matsui et al. (U.S. Patent No. 5,991,360) in view of McGeoch (U.S. Patent No. 6,421,421) and Kanouff et al. (U.S. Patent No. 6,198,792). Applicants respectfully traverse this rejection.

Claim 1 recites, in part, a lithographic projection apparatus which includes at least one sensor selected from the group comprising a reflectivity sensor to monitor a reflectivity of a mirror and a pressure sensor to monitor a background pressure. As admitted in the Office Action (page 2) Matsui does not teach such a feature. To remedy the deficiencies of Matsui, the Office Action alleges that McGeoch teaches a sensor to monitor a reflectivity of a mirror and a pressure sensor to monitor a background pressure. Applicants respectfully disagree.

McGeoch discloses a detector 550 which samples the extreme ultraviolet spectrum of the radiated photons at two wavelengths. That is, the detector 550 is a radiation sensor not a pressure sensor. McGeoch does not teach or suggest that the detector 550 is a pressure or reflectivity sensor and none of Matsui and Kanouff teach or suggest such a feature. Accordingly, no combination of Matsui, McGeoch and Kanouff teach or suggest a lithographic projection apparatus which includes at least one sensor selected from the group comprising a reflectivity sensor to monitor a reflectivity of a mirror and a pressure sensor to monitor a background pressure, as recited in claim 1.

Claim 10 is believed allowable for at least the same reasons presented above with respect to claim 1 because claim 10 recites, in part, a method of manufacturing a device using a lithographic projection apparatus which includes monitoring at least one of a reflectivity of a mirror and a background pressure.

Claim 14 recites, in part, a method of manufacturing a device using a lithographic projection apparatus which includes supplying gaseous alcohol to a space in a radiation system of the lithographic projection apparatus. As admitted in the Office Action (page 4), neither Matsui nor McGeoch disclose supplying gaseous alcohol to the lithographic projection apparatus. The Office Action alleges that Kanouff teaches this feature. Applicants respectfully disagree.

Kanouff discloses (column 4, lines 1-7) that a source for contaminants are hydrocarbons generated by the wafer upon exposure to radiation and that hydrocarbon deposits on the projection optics will reduce system EUV throughput. Kanouff further discloses (column 7, lines 5-22) that an inert gas is provided to minimize the flow of the hydrocarbons so that the hydrocarbons do not interfere with the EUV radiation path. Accordingly, Kanouff does not teach or suggest supplying gaseous alcohol to the lithographic projection apparatus. In fact, Kanouff teaches away from supplying hydrocarbons to the lithographic projection apparatus and none of Matsui and McGeogh teach or suggest such a feature. Accordingly, no combination of Matsui, McGeogh and Kanouff teach or suggest a method of manufacturing a device using a lithographic projection apparatus which includes supplying gaseous alcohol to a space in a radiation system of the lithographic projection apparatus, as recited in claim 14.

Claims 1-9, 11, 12, 16, and 17 are believed allowable for at least the reasons presented above with respect to claims 1, 10, and 14 by virtue of their dependence upon claims 1, 10, and 14. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection of claims 1-12, 14, 16, and 17 under 35 U.S.C. § 103(a) over Matsui in view of McGeogh and Kanouff.

Conclusion

Applicants appreciate the Examiner's indication that claims 13 and 15 contain allowable subject matter and would be allowable if rewritten in independent form. However, in view of the foregoing, all the claims (1-17) are believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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